THE IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY; IN THE CASE OF ROHA PACK PLC, HANA MARIAM INDUSTRY ZONE, ADDIS ABABA.

ENDALE KASSA DESTA

MASTERS OF BUSINESS ADMINISTRATION (MBA)

(INDUSTRIAL MANAGEMENT)

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

FEBRUARY 2018

CERTIFICATE

This is to certify that the thesis prepared by Ato Endale Kassa entitled "The Impact of Working Capital on Profitability in the case of Roha Pack plc., Hana Mariam Industry Zone, Addis Ababa" and submitted in fulfillment of the requirement for the degree of master of business Administration, complied with the regulation of the University and meets the accepted standard with respect to originality and quality.

Approved by Board of examiners

Internal examiner	Signature	Date
External examiner	Signature	Date
Advisor	Signature	Date
Co-Advisor	Signature	Date

Declaration

I, the undersigned, declare that this thesis entitled "The Impact of Working Capital Management on Profitability in the case of Roha Pack plc, in Hana Mariam Industry Zone, Addis Ababa" is my original work. I have under taken my research work independently with the guidance and support of the research advisor. All source of materials used for this thesis have been duly acknowledged. I further confirm that, the thesis has not been submitted in any other learning institution for the purpose of earning any degree.

Endale Kassa . _____ .

Name Signature

Addis Ababa Science and Technology University

February 2018

ACKNOWLEDGEMENTS

In writing this thesis, the researcher is grateful to all those who contributed in various ways to the successful completion of this thesis. The acknowledgements will be incomplete without firstly recognizing the supremacy of God, the giver of wisdom and knowledge.

My sincere thanks are due to many people. First, I am greatly indebted to my supervisor, GeremewTekluTsigu (Ph.D) Ass. Prof. who ignited the passion and motivation that inspired me to embark on this intellectual exercise. He is thanked immensely for his encouragement, useful suggestions and constructive criticisms of this project.

I will do my conscience a great harm if I fail to acknowledge to Roha Pack Plc all staff specially; the general Manager Ato Wendemagen Meshesha and the finance Manger W/ro Fistum Araya for their cooperation and kindness in providing access to information giving time to respond interview question. Finally I remain indebted to all the lecturers in the Department of Business Management and my class mate of 2008 E.C batch of Industrial Management for their love, patience, cooperation and understanding during my stay and the period of writing this thesis. To all others too numerous to mention, the researcher says thank you.

Endale Kassa

ABSTRACT

Working Capital Management involves management of current assets and liabilities of the organization. It is also recommended that manufacturing companies like Roha Pack Plc should adopt efficient and effective working capital management policies to keeping working capital at optimal level. Because mishandling working capital can lead to the collapse of such organization. The purpose of this study is to evaluate the impact of working capital management and firm profitability in the case of Roha Pack Plc, Hana Mariam Industry Zone, Addis Ababa. This study used a mixed research approach and the research design of the study were longitudinal research design. Data collected through interview and document review. The data was analyzed using SPSS (version 20.0), estimation equation by both correlation analysis and pooled panel data regression models of cross-sectional and time series data were used for analysis. Results indicate that longer accounts receivable period and cash collection cycle are associated with lower profitability. The results also show that there exists significant negative relationship among account receivable period, cash conversion cycle, account payable period, working capital financing policy and profitability of Roha pack plc. No significant relationship between inventory turnover period and working capital investment policy with return on asset has been observed. In general paying suppliers shorter and collecting payments from customers earlier, and keeping product in stock less time, are all associated with an increase in the firm profitability. Therefore, the manager of Roha Pack plc can increase the firm profitability by improving the performance of working capital components.

Key Words: *Profitability, impact, Working Capital Management, WCM policy*

Table of Contents Page No

CHAPTER THREE: RESEARCH DESIGN & METHODS

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRITATION

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATION

List of Figures **Pages**

List of Table **Page**

Acrimony and Abbreviations

A/P – Account payable

A/R- Account Receivable

APP- Account payment period

ARP- Account receivable period

ITOP- Inventory turnover period

CCC- Cash conversion cycle

FAP – Financial audit standard

GAAP – General accepted accounting principles

GOP – Gross operating profit

IAS – International audit standard

RP - Roha Pack

ROA- Return on Asset

SPSS – Statistical package for social science

PLC - private limited company

WCM – Working capital management

WC – Working capital

WCFP – Working capital financing policy

WCIP – Working capital investment policy

CHAPTER ONE

INTRODUCTION

1.1 Back ground of the study

In functional affaires of companies, working capital management is very important factors which have a direct positive impact on profitability of the company as well as liquidity of the company. Liquidity and profitability are both the two different side of the same coin. Optimum level liquidity guarantee affirm to meet their short term debt and the proper management of flow can be promised by a profitable business. Liquidity shows the ability of the company in responding to short term obligation (Pandy, 2008).

In the present day of rising capital cost and scarce funds, the importance of working capital needs special emphasis. It has been widely accepted that the profitability of a business concern likely depends upon the manner in which working capital is managed (Kaur, 2010). Both excessive and inadequate working capital positions are dangerous from the firm's point of view (Islam & Mili, 2012). Excessive working capital leads to unproductive use of scarce funds. Excessive working capital means holding costs and idle funds which earn no profits for the firm (Islam & Mili, 2012). This leads to reduced profits although it guarantees a low liquidity risk.

The inefficient management of working capital impairs profitability and interrupts normal operations of a business as well (Kaur, 2010). This may ultimately lead to a financial crisis and bankruptcy. On the other hand, proper management of working capital leads to material savings and ensures financial return at the optimum level even on the minimum level of capital employed (Kaur, 2010). Both excessive and inadequate working capital is harmful for a business. Working capital and its importance is unquestionable (Filbeck & Krueger, 2005). It directly influences the liquidity and profitability of firms (Raheman &

Nasr, 2007). Just as circulation of blood is very necessary in the human body to maintain life, the flow of funds is very necessary to maintain business (Padachi, 2006). If it becomes weak, the businesses can hardly survive. Therefore, ignore proper management of working capital at your own peril. Working capital management is important to manufacturing firms because it comprises over half of the total assets of a firm.

According to (Amaendu Bhunia,2010) working capital management we mean by profitability & Liquidity .Working Capital mainly maintains the current asset of the firm which is allocate of financial resource of the business changes from one type to another during the day to day executive of business. (Gitman, 2009).Current asset mainly comprise of cash, prepaid expenses, short-term investment, account receivable, inventory and other current assets. Proper optimization of working capital balance means minimizing the working capital requirement and realizing maximum possible revenues .There is a strong linear relationship between profitability of the firm and its working capital efficiency (Ganesan, 2007).

The ability of the company to earn profit can be referred to as the profitability of the company. Proper working capital ensures that the company increased its profitability .If a firm minimizes its investment in current asset , the resulting finds can be invested in value creating profitable projects, so it can increases the firm growth opportunities and share holders return.

Working capital management has become one of the most important issues in the organizations where many financial struggle to identify the basic working capital drivers and the appropriate level of working capital (Lamberson, 1995).

Working capital requirement has its own impact on the market valuation of a business which in unpredictable times falls under even greater analysis by share holders and

investors and it had been point out that an efficient working capital management has becoming an essential elements of the overall corporate strategy to create share holders value. Moreover, working capital constitutes an important source of capital for small and medium scale enterprises as well as high flying firms. In most developing countries like Ethiopia, these categories of firms face tend to rely more heavily on owner financing, trade credit and short term capital bank loans (Chittenden et al, 1998).In this study, efficiency of working capital management (WCM) is represented by cash conversion cycle (CCC), together with WCM components such as number of days Accounts Receivable (ARP), number of days Inventories (ITOP) and number of days Accounts Payable (APP) are analyzed on their effect towards firm's profitability, measured by Return on Asset (ROA). This study also analyses on the effect of working capital management (WCM) policy adopted by the firm, whether aggressive or conservative policy being implemented by the firms in services and manufacturing sector (Afza & Nazir, 2007).

1.2 Back ground of the Company

Roha Pack plc formerly known as Agere-Roha Plc, was established in April 2003 (1995 E.C) with Eight Shareholders, with an initial capital of Birr 5.0 million in Addis Ababa and now the capital of the company reached to Birr 45,903,000. Roha Pack Plc is engaged in the production of plastic packing materials such as Pet Bottles, Pet Preforms, HDPE bottles, Jars and caps used for the packaging of mineral water, edible oil, juice, honey, cosmetics, detergents, and soft drinks.

The brands and products of the company are focus of continuous innovation so that they meet and exceed consumers' expectations. The company seeks a clear-cut advantage over competitors' products and to ensure its products are available wherever, whenever and

however the customers want them. Continuous attention is also given to developing the professional and leadership skills of the staff at all levels so that they can directly contribute to growth and a higher level of performance. Its business supports an ever-increasing standard of living through employment generation, increased income, infrastructure improvements and a growing concern for the interest of the community here in Addis Ababa.

The company is organized into two principal business segments: Blowing unit and Injection Unit, which includes production and sales of perform and PET bottles.

1.3. Statement of the problem

Working capital management efficiency is vital for manufacturing firms, where a major part of the assets is composed of current assets (Horne & Wachowitz, 2004). One of the major components of working capital is inventory. The inventory of a manufacturing concern comprise of finished goods, work in progress and raw materials. The sum of the three components of the inventory constitutes a heavy investment in a manufacturing firm. Current assets for a typical manufacturing company account for over half of its total assets (Raheman & Nasr, 2007).

Roha Pack Plc has limited resources, limited cash flows, few customers, is often engaged in management 'fire-fighting', concentrates on current performance rather than taking a strategic focus. Working capital management is an important issue in any organization. This is because without a proper management of working capital components, it's difficult for the firm to run its operations smoothly. Raw material and the required spare parts for machine are not provide as per the schedule due to working capital management issue ; due to this, customers are not able to get what they order at the expected time hence customers are shifted to others competitors and due to absence of minimum economic order and

inventory management, some inventory are waited for long duration in store and sometimes due to shortage of space products become damage and also the ability of paying its short term obligation are also one of its headache in the last five years. That is why Brigham and Houston (2003) mentioned that about 60 percent of a typical financial manager's time is devoted to working capital management. Hence, the crucial part of managing working capital is maintaining the required liquidity in day to-day operation to ensure firms smooth running and to meet its obligation (Eljelly, 2004).

As Egbide(2009) explains the large number of business failures in the past has been blamed on the inability of the financial manager to plan and control the working capital of their respective firms. This report inadequacies among financial managers are still practiced today in many organizations in the form of high bad debts, high inventory costs etc., which adversely affect their operating performance. Similarly, Roha Pack Plc is one of the pioneers in the PET & HDPE plastic packaging manufacture in Ethiopia and the Packaging firms are becoming one of the crucial sectors in our economy today. The crucial part of managing working capital is maintaining the required liquidity in day-to-day operation to ensure firms smooth running and to meet its obligation (Eljelly, 2004).

Even though different researches have been carried out in different parts of the world to explain the relationship between working capital management and firm's profitability; the researcher believes that still, the problem is not sufficiently addressed and there is a knowledge gap on the area; especially in PET & HDPE plastic packaging factory; since this industry is at infant stage in the country. Therefore this study seeks to bridge the gap on the impact of WCM on profitability of plastic packaging manufacturing firm in Ethiopia. Therefore, by keeping the above problem in mind, the study tried to find out the impact of working capital management on Roha Pack plc, Hana Mariam Industry Zone Addis Ababa.

1.4. Objectives of the Study

1.4.1. General objective

The general objective of this study is to identify the impacts of working capital management on profitability of Roha Pack Plc in Addis Ababa, Ethiopia.

1.4.2. Specific objectives

The following specific objectives have been developed in order to answer the main aim of this study.

1. To examine the impact of working capital components (cash, inventory, account receivables, accounts Payables) on RP profitability.
2. To assess the nature of the relationship that exists between/among working capital components.
3. To investigate the impact of WCM policies on RP profitability.
4. To identify the practices and techniques of WCM currently employed by Roha Pack plc.

1.5. Research Hypotheses

Based on the research objectives developed above, there are six hypotheses constructed in this study to investigate on the two key areas which are (i) the effect of WCM components and (ii) the effect of WCM policies towards profitability of firm during the period of 2011/12 to 2015/16.These alternative hypotheses were tested at 0.05 level of significance and the Pearson's Correlation Coefficient Matrix is used to decide the relation.

$H1_1$: Cash conversion cycle is significant related to financial profitability of the firm.

$H1_2$: Inventory turnover period have significant impact on firms' financial profitability.

$H1_3$: Account receivable period have significant effect on the financial profitability of firms

H1$_4$: Accounts payable periods has significant impact on the financial profitability of firms.

H1$_5$: There is significant relationship with Working Capital financing policy and firm profitability.

H1$_6$: There is significant relationship with Working Capital investment policy and firm profitability.

1.6 Significance of the Study

The findings of this study will be of benefit to:

For the studied Company : The management of the target companies are able to know the healthiness of their working capital management and also if there is a gap they are able to take corrective action for a better decision in the future on their working capital.

Investors: It will be useful to both potential and eligible investors in gauging the performance of PET perform & Bottles manufacturers to avoid serious losses on investment. Investors are keen on getting a high rate of return on their investment.

Lending institutions: Sources of funds are a component of working capital. The findings of this study will assist the management of financial institutions to understand some of the WCM practices in the PET manufacturing sector which will then guide their lending financing decisions to the similar industry. **S**uch as commercial banks & development bank, which insist that firms should maintain a minimum level of net working capital, will find the project useful in assessing the creditworthiness of the firms and to gauge the ability of the company as to whether difficult financial periods.

Similar Industry: It uses as a reference for other companies who are trying to- make decision regarding the working capital reform model.

Scholars and Researchers: This research will add to the existing field of knowledge of working capital management and provide scholars with the necessary literature review to carry out further research.

1.7. Scope of the Study

This study is delimited to investigate the impact of working capital management on firms' profitability, in the case of Roha pack plc only ; one of a pioneer PET & HDPE plastic packaging manufacturing company in Hana mariam industry zone, Addis Ababa. The study is confined to five years data only, i.e. from 2011/12-2015/16.

1.8. Limitation of the Study

a) This study is limited for the period of five years (2011/12-2015/16) for generalization of findings and makes conclusions.

b) The findings are based on the secondary data collected from financial statement of the company; therefore the quality of the study depends purely upon the accuracy, reliability and quality of the secondary data source.

C) Because of the unwillingness of the PET packaging companies to get data, the research is delimited to Roha Pack plc data only.

1.9. Organization of the thesis

This Study paper consists of five chapters. That is the introduction chapter having back ground of the study, statement of the problem, objectives of the study (general objective, specific objective and general hypothesis),significance of the study, research methodology (research design and research sample selection) and scope and limitations of the study. The second chapter is literature review and the third chapter presents methodologies which consists of research design, research sample selection, data collection, data analysis

and presentation procedures. The fourth and fifth chapter contains analysis, conclusion and recommendations respectively.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

2.1 Introduction

Manufacturing sector in an economy remains one of the most powerful engines for economic growth. It acts as a catalyst to transform the economic structure of countries from simple, slow growing and low value activities to more vibrant and productive economies. Its productive economic activities are driven by technology and therefore enjoy great margins (Amakom, 2012). This brings about growth prospects in the economies. Manufacturing sector today has become the main means for developing countries to benefit from globalization and bridge the income gap with the industrialized world (Amakom, 2012).

2.2 Theoretical literature review

Working capital management is an important component of the overall financial strategy of any firm to create value, loving a significant impact on profitability and risk (Lamberson, 1995). It improves planning and controlling current asset & current liability in a manner that eliminate the risk of not meeting short term, obligations and avoid the excessive investment in firm's assets and activates (Eljeluy, 2004). The objective of WCM is to maintain the optimum balance of each account, namely; receivables, inventory, and payables that influence firm's performance (flibeck & Krueger, 2005). According to Dellof, (2003) efficient WCM is fundamental for maximizing profitability.

There for, maximizing profit is the main objective for firms, however, firms need at the same time to focus on liquidity to prevent insolvency (Raheman & Nasir, 2007).This happens because working capital investment are not converted into cash, at the same moment in time or the same cash flow magnitude, there by firms should guarantee the

necessary amount of available funds to match firms liquidity needs (Richard and Laughlin, 1980). WCM is particularly important for firms with limited access to long term capital markets; Once there firms tend to rely heavily on financing from trade credit and short term bank loans to finance the needed investment in cash – accounts, receivables & inventory (Long et al, 1993).

2.3 Overview of WCM Components

Generally, WCM components consist of number of days account receivables (ARP), number of days of inventories (ITOP), number of days accounts payable (APP) and cash conversion cycle (CCC) as part of inclusive measurement of WCM. It should be acknowledged that WCM is not limited to internal interaction, but is implicated in multiple levels of interaction both internally and externally (Brigham & Ehrhardt, 2008). Thus, in order to investigate the effect of WCM towards the profitability of a firm in services and manufacturing sectors, WCM measurement such as ARP, ITOP, APP and CCC have been applied in the panel data regression model, which the descriptions of the WCM components are as per discussion below.

2.3.1Number of days Accounts Receivable (ARP)

Accounts receivable (ARP) generally refers to average number of days it takes for a corporation to obtain collection of payments from its clients, with the purpose of managing its debtors by reducing the interval of time between sales and collection of payment from clients (Falope and Ajilore, 2009). Based on study conducted by majority of the researchers, the formula for computation of number of days accounts receivable (ARP) is:

$$ARP = \frac{\text{Accounts Receivable} \times 365 \text{ days}}{\text{Sales}}$$

According to Falope and Ajilore (2009), receivables are related to the firm's credit collection policy, which also reflects the frequency of conversion of receivables into cash that is an important part of the WCM. Thus, by granting trade credit, sales level can be encouraged as it enables ample time for assessment of products by clients before payment (Deloof and Jegers, 1996). However, by granting liberal credit policy to clients, although there is an increase in profitability, but liquidity position of the firm is surrendered (Falope and Ajilore, 2009). Even if, Deloof (2003) had provided suggestion that shareholders value can be enhanced further by lessening the number of days of accounts receivable to an acceptable minimum level, while Lazaridis and Tryfonidis (2006) indicated that the profitability of the firms can be improved by lowering the credit interval given to their clients.

2.3.2 Number of days Inventories (ITOP)

Another component of WCM consists of inventories, which is also known as stock that refers to raw materials, work in progress or finished goods that are pending manufacturing stage or sales. Inventory turnover period also refers to average number of days the stock is kept by the corporation, which longer ITOP reflects higher investment in inventory level (Falope and Ajilore, 2009) that is able to minimize the risk of insufficiency of stock level and lead to greater sales generation (Deloof, 2003). According to Deloof, (2003), ITOP is determined by the following formula.

$$\text{ITOP} = \frac{\text{Inventory} \times 365 \text{ days}}{\text{Cost of Goods Sold}}$$

Based on findings by researchers such as Falope and Ajilore (2009); Dong and Su (2010), there is a significant negative relationship discovered between number of days inventories (ITOP) and profitability. Thus, an increase in profitability of a firm can be achieved when the number of days held in inventories is reduced. However, as per study conducted by Egbide (2009), there is a significant positive relationship found between inventory

performance measured by both total inventory and its components, which refer to raw material, work-in-process and finished goods; and financial performance of firms in manufacturing sector that is measured by gross profit. Hence, based on the researchers finding, there are two possible indications of relationship, either positive or negative relationship observed between ITOP and profitability of firm.

2.3.3 Number of days Accounts Payable (APP)

Generally, accounts payable refers to suppliers who had supplied goods or services that have not been paid by clients, which is also known as amount owing to creditors that is deemed as free credit and account payable period is computed as Falope and Ajilore (2009) as per following formula:-

$$APP = \frac{\text{Accounts Payable} \times 365 \text{ days}}{\text{Cost of Goods Sold}}$$

According to literature reviews, there is a significant negative relationship established between AP and profitability as reported by Deloof (2003); Falope and Ajilore (2009), which means that less profitable firms delay payment to suppliers in order for firms to make evaluation of the feature or quality of products, which are also deemed as an economical and adaptable source of finance for firms (Deloof, 2003). On the other hand, firms incur high implicit cost via financing granted by suppliers should there be a discount given by suppliers for prompt payment (Falope and Ajilore, 2009). Thus, the higher the investment in current assets, the lesser the risk incurred which also reflects lesser firm's profitability.

2.3.4 Cash Conversion Cycle (CCC)

Richards and Laughlin (1980) had long established the principle of working capital management by initiating the idea of CCC as a strong performance indicator for

organizing the firm's working capital. Short cash conversion cycle denote that the collection of receivables is prompt and the suppliers being paid at a slower pace, which reflects improvement on the effectiveness of its in-house procedures that further translates to greater profitability, greater net present value of cash flow and greater market valuation of an organization (Gentry, Vaidyanathan and Lee, 1990). Meanwhile, Besley and Brigham (2005) define a cash conversion cycle as average period of time taken from acquisition of raw materials being paid to receivables related with sale being collected.

Cash conversion cycle is deemed as the most dominant and prevalent measurement for efficiency of working capital management (Gill, Biger and Mathur, 2010). In addition, CCC has also been adopted by other researchers as one of the measurements of WCM in their study such as Moss and Stine (1993). According to Deloof (2003); for a comprehensive determination of WCM, CCC is applied that is computed based on the formula for CCC computation is also supported by Nobanee etal (2011), which measured CCC as the following formula:-

CCC = Number of days Accounts Receivable + Number of days Inventory – Number of days Accounts Payable

$$CCC = ARPD + INV - AP$$

A lengthy CCC level may linked to an increase in sales and subsequently higher profitability gained, but an extended CCC position may reflects a lower firms' profitability in the event the costs of investing in working capital has escalated beyond the advantages of retaining higher inventory level and providing higher trade of credit to clients (Akinlo, 2012). Most of the researchers found a significant negative relationship between CCC and profitability (Lazaridis and Tryfonidis, 2006; Falope and Ajilore, 2009) which indicates that profitability can be increased by reducing the CCC level.

However, Deloof (2003) had found an insignificant negative relationship between CCC and gross operating income under fixed effects estimation model, gross operating income

had decreases with an increase in number of days accounts receivable, inventories as well as number of days accounts payable (APP), which have negative relationship with profitability; and APP had been deducted in computation of CCC. Deloof (2003) is also supported by Akinlo (2012), who found an insignificant negative relationship between CCC and profitability measured by return on assets (ROA) in fixed effects estimation model, which is due to profitability decreases as a result of an increase in the number of days accounts receivables, inventories and number of days accounts payable that has been deducted in CCC calculation. But Padachi (2006) had found a positive association between CCC and profitability for Mauritian small manufacturing firms, which the positive relation is further supported by Gill, Biger and Mathur (2010). Thus, based on the researchers' findings, there is a mixture of positive and negative relationship observed between CCC and firm's profitability.

2.3.5 Working Capital Management (WCM) Policy

Working capital management (WCM) plays a vital role as it has impact on the profitability, risk and value of the firm (Smith, 1980). The effective working capital management policy of enterprises is essential in order to ensure the optimal levels of growth, profitability, and long-term sustainability. Owners/managers of enterprises need to spend more time to manage the current assets and current liabilities effectively, in order to maximizing the firm's value in a way that balances profitability (D. Sharma, 2009).

Current assets are key component of working capital and the WCP also depends on the level of current assets against the level of current liabilities (Afza & Nazir, 2007). On this base the literature of finance classifies working capital policy into three categories as defensive or hedging, aggressive and conservative working capital policy (Arnold, 2008 pp.535-36).

A.Defensive policy: Company follows defensive policy by using long term debt and equity to finance its fixed assets and major portion of current assets. Under this approach, the business concern can adopt a financial plan which matches the expected life of assets with the expected life of the sources of funds raised to finance assets (Paramasivan and Subramanian, 2009). Inventory expected to be sold in 30 days could be financed with a 30- day bank loan; a machine expected to last for 5 years could be financed with a 5-year loan; a 20-year building could be financed with a 20 year mortgage bond; and so forth (Weston and Brigham, 1977).

Defensive policy reduces the risk by reducing the current liabilities but it also affects profitability because long term debt offers high interest rate which will increase the cost of financing (Arnold, 2008, p.530). This means a company is not willing to take risk and feel it appropriate to keep cash or near cash balances, higher inventories and generous credit terms. Mostly companies that are operating in an uncertain environment prefer to adopt such a policy because they are not sure about the future prices, demand and short term interest rate. In such situation it is better to have a high level of current assets. Which means, keeping higher level of inventory in the stock, to meet sudden rise in demand and to avoid the risk of stoppage in production. This approach gives a longer cash conversion cycle for the company. It also provides the shield against the financial distress created by the lack of funds to meet the short term liability but as the researcher discussed earlier long term debt have high interest rate which will increase the cost of financing. Similarly, funds tied up in a business because of generous credit policy of company and it also have opportunity costs. Hence, this policy might reduce the profitability and the cost of following defensive might exceed the benefits (Arnold, 2008).

B. Aggressive policy: Companies can follow aggressive policy by financing its current assets with short term debt because it gives low interest rate. However, the risk

associated with short term debt is higher than the long term debt. Paramasivan and Subramanian (2009) pinpointed that in aggressive policy the entire estimated requirement of current assets should be financed from short-term sources and even a part of fixed assets financing be financed from short- term sources. This approach makes the finance mix more risky, less costly and more profitable. Furthermore, few finance managers take even more risk by financing long term asset with short term debts and this approach push the working capital on the negative side.

Managers try to enhance the profitability by paying lesser interest rate but this approach can be proved very risky if the short term interest rate fluctuates or the cash inflow is not enough to fulfill the current liabilities (Weston and Brigham, 1977). Therefore, such a policy is adopted by the company which is operating in a stable economy and is quite certain about future cash flows. A company with aggressive working capital policy offers short credit period to customers, holds minimal inventory and has a small amount of cash in hand. This policy increases the risk of default because a company might face a lack of resources to meet the short term liabilities but it also gives a high return as the high return is associated with high risk (Arnold, 2008, p.536).

C. Conservative policy: Some companies want neither to be aggressive by reducing the level of current assets as compared to current liabilities nor to be defensive by increasing the level of current assets as compared to current liabilities. There is also a mixture of defensive WCP and aggressive WCP. In these approach temporary current assets, assets which appear on the balance sheet for short period will be financed by the short term borrowings and long term debts are used to finance fixed assets and permanent current assets (Weston and Brigham, 1977). Thus, the follower of this approach finds the moderate level of working capital with moderate risk and return. It is called as “low profit low risk” concept (Paramasivan and Subramanian, 2009). Moreover, this policy

not only reduces the risk of default but it also reduces the opportunity cost of additional investment in the current assets.

On the other hand, apart from the above points the level of working capital also depends on the level of sale, because, sales are the source of revenue for every companies. Sales can influence working capital in three possible ways Arnold (2008).

- ✓ As sales increase working capital will also increase with the same proportion so, the length of cash conversion cycle remains the same.
- ✓ As the sales increase working capital increase in a slower rate.
- ✓ As the sales increase the level of working capital rises in misappropriate manner i.e. the working capital might raise in a rate more than the rate of increased in the sale.

Company with stable sale or growing sale can adopt the aggressive policy because it has a confidence on its future cash inflows and is confident to pay its short term liabilities at maturity. On the other hand a company with unstable sale or with fluctuation in the sale can't think of adopting the aggressive policy because it is not sure about its future cash inflows. In such a situation adoption of aggressive policy is similar to committing a suicide. Hence, searching other method might be the best choice. WCM policy is divided into Working Capital Investment Policy (WCIP) and Working Capital Financing Policy (WCFP), which the detail of the descriptions are as discussed below.

2.3.5.1 Working Capital Investment Policy (WCIP)

According to Afza and Nazir (2007) and Nazir and Afza (2009), aggressive investment policy refers to minimum amount being invested in current assets as compared to fixed assets. On the other hand, a conservative investment policy emphasized on higher share of

investment in current assets at the expense of incurring lower profitability. Thus, an increase in the firm's current assets proportionately to total assets reflects a conservative management style in administering the current assets. In contrast, as highlighted by Afza and Nazir (2007) and Nazir and Afza (2009), lower working capital investment policy (WCIP) ratio in current assets to its total assets reflects a comparatively aggressive investment policy.

Furthermore, an extreme concentration in current assets has a negative impact on the profitability of firm, while a lower current assets position reflects lower liquidity position and need to deal with the risk of inadequate stock level, which resulted complexity in sustaining business operations efficiently Van Horne and Wachowicz (2004).

Afza and Nazir (2007) and Nazir and Afza (2009) had computed the extent of the aggressiveness of working capital investment policy (WCIP) by applying ratio of aggressive investment policy (AIP) formula as total current assets over total assets as applied by Weinraub and Visscher (1998). However, in this study, AIP is also referred to as WCIP, which is represented by the formula below:-

$$\text{WCIP} = \frac{\text{Total Current Assets}}{\text{Total Assets}}$$

Based on the past study conducted by applying a panel data regression models between WCM policies and profitability, Nazir and Afza (2009) had found a negative association between firm's profitability and the extent of aggressiveness of WCIP. Therefore, if the firms adopted an aggressive WCM policy, the profitability of the firm will decrease. Meanwhile, firm's value can be enhanced further by implementing a conservative approach in managing the WCIP and WCFP.

2.3.5.2 Working Capital Financing Policy (WCFP)

An aggressive financing policy refers to higher shares of utilization in current liabilities with lower long-terms debt, where a higher ratio of WCFP is associated with comparatively aggressive financing policy (Afza and Nazir, 2007; Nazir and Afza, 2009). Meanwhile, a conservative financing policy emphasized on higher utilization of long-term debt and capital, with a lower consumption in current liabilities. In other words, the firms are aggressive in managing their current liabilities when the focus has been on higher utilization of current liabilities, which also affected the liquidity position of the firms (Nazir and Afza, 2009).

Afza and Nazir (2007) and Nazir and Afza (2009) had indicated the formula for aggressive financing policy (AFP) ratio as total current liabilities over total assets. However, in this study, AFP ratio is also referred as WCFP, which is represented by the formula below:-

$$\text{WCFP} = \frac{\text{Total Current Liabilities}}{\text{Total Assets}}$$

2.4. Profitability and Liquidity Measures

Profitability ratio is a measure of profit generated from the business and is measured in percentage terms e.g. percentage of sales, percentage of investments, percentage of assets. High percentage of profitability plays a vital role to bring external finance in the business because creditors, investors and suppliers do not hesitate to invest their money in such a company (Fabozzi and Peterson, 2003). There are several measures of profitability which a company can use. Few measures of profitability are discussed here:

Net profit margin (NPM): It calculates the percentage of each sale dollar remains after deducting interest, dividend, taxes, expenses and costs. In other words it calculates the

percentage of profit a company is earning against it's per dollars sale. Higher value of return on sale shows the better performance (Gitman, 1999).

NPM = (Earnings available for common stakeholder / Net sales)*100

Return on asset (ROA): This ratio explains that how efficient a company is to utilize its available assets to generate profit. It calculates the percentage of profit a company is earning against per dollar of assets (Weston and Brigham (1977). The higher value of ROA shows the better performance and it can be computed as follows:

ROA = (Earnings Available For Common Stockholders / Total Asset)*100

Gross operation profit (GOP): this ratio explains that how efficient a company is to utilize its operating assets. This ratio calculates the percentage of profit earned against the operating assets of the company (Weston and Brigham, 1977).

Gross operating profit = (Sales – CGS) / (Total asset –financial asset)

2.5 Relationship between liquidity and profitability

Finance manager has to take various types of financial decisions like investment decision, finance decision, liquidity decision and dividend decision, in different time. In every area of financial management, the finance manger is always faced with the dilemma of liquidity and profitability. He/she has to strike a balance between the two (Eljelly, 2004). Liquidity means the firm has to have adequate cash to pay bills as and when they fall due, and it also have sufficient cash reserves to meet emergencies and unforeseen demands, in all time. On the other hand, Profitability goal requires that funds of a firm should be utilized as to yield the highest return. Hence, liquidity and profitability are conflicting decisions, when one increases the other decreases. More liquidity results in less profitability and vice versa. This conflict finance manager has to face as all the financial decisions involve both liquidity and profitability.

Creditors of the company always want the company to keep the level of short term assets higher than the level of short term liabilities; this is because they want to secure their money. If current assets are in excess to current liabilities then the creditors will be in a comfortable situation. On the other hand managers of the company don't think in the same way, obviously each and every manager want to pay the mature liabilities but they also know that excess of current assets might be costly and idle resource which will not produce any return. For example, having high level of inventory will raise warehouse expense.

So, rather than keeping excessive current assets (cash, inventory, account receivable) managers want to keep the optimal level of current assets, to a level which is enough to fulfill current liabilities. And also managers want to invest the excessive amount to earn some return. Hence, managers have to make a choice between two extreme positions; either they will choose the long term investments, investments in non current asset such as subsidiaries (equity), with high profitability i.e. high return and low liquidity. On the other hand to choice short term investment with low profitability i.e. low return and high liquidity.

However, creditors of the company want managers to invest in short term assets because they are easy to liquidate but it reduces the profitability because of low interest rate. On the other hand, if the managers prefer the long term investment to enhance the profitability then in case of default lenders or creditors have to wait longer and bear some expense to sell these assets because the liquidity of long term investment is low. In reality, none of the managers choose any of these two extremes instead they want to have a balance between profitability and liquidity which will fulfill their need of liquidity and gives required level of profitability (Arnold, 2008).

2.6. Empirical literature review

The review of prior literature reveals that there exists a significant relationship between WCM and profitability of firms by using different analysis. These studies evaluate WCM, by trying to determine the impact of a firm's working capital management on its profitability. They argue that a WCM, which resulted in the highest profitability, must be the best way of managing working capital that can be implemented. All these studies have used regression analyses using different independent variables for profitability.CCC basically shows how long a firm takes to convert resource inputs into cash flows. Contradicting evidence is found by Gill et al. (2010), whom did research in the USA and found a positive relationship between CCC and a firm's profitability. But they did find a highly significant negative relation between accounts receivables and a firm's profitability. They suggest that a firm can enhance their profitability by keeping their working capital to a minimum.

This is because they argue that less profitable firms will pursue a decrease of their accounts receivables in an attempt to reduce their cash gap in the CCC (Gill et al., 2010). Other studies have mainly focused on emerging market. These studies are Raheman and Nasr (2007), Falope and Ajilore (2009), Dong and Su (2010), Mathuva (2010) and whom did research in respectively Pakistan, Nigeria, Vietnam & Kenya. All these studies have found a significant negative relation between the cash conversion cycle and a firm's profitability. This means that managers can create value for their firms, by keeping their working capital to a reasonable minimum.

As mentioned before, authors have also studied the three parts of the CCC individually. These parts are the number of day's accounts receivables, inventories and accounts payables. Sharma and Kumar (2011) argued that the positive relation they found between accounts receivables and profitability is caused by the fact that Indian firms have to grant

more trade credit to sustain their competitiveness with their foreign competitors, which have superior product and services.

2.7. Conceptual frame work of the study

In order to hold, the existing and new knowledge, theory should be supported by conceptual frame work, so that knowledge can be interpreted for empirical application in the comprehensive manner. In this study the conceptual frame work comprise of five independent and one dependent variable.

Independent Variable

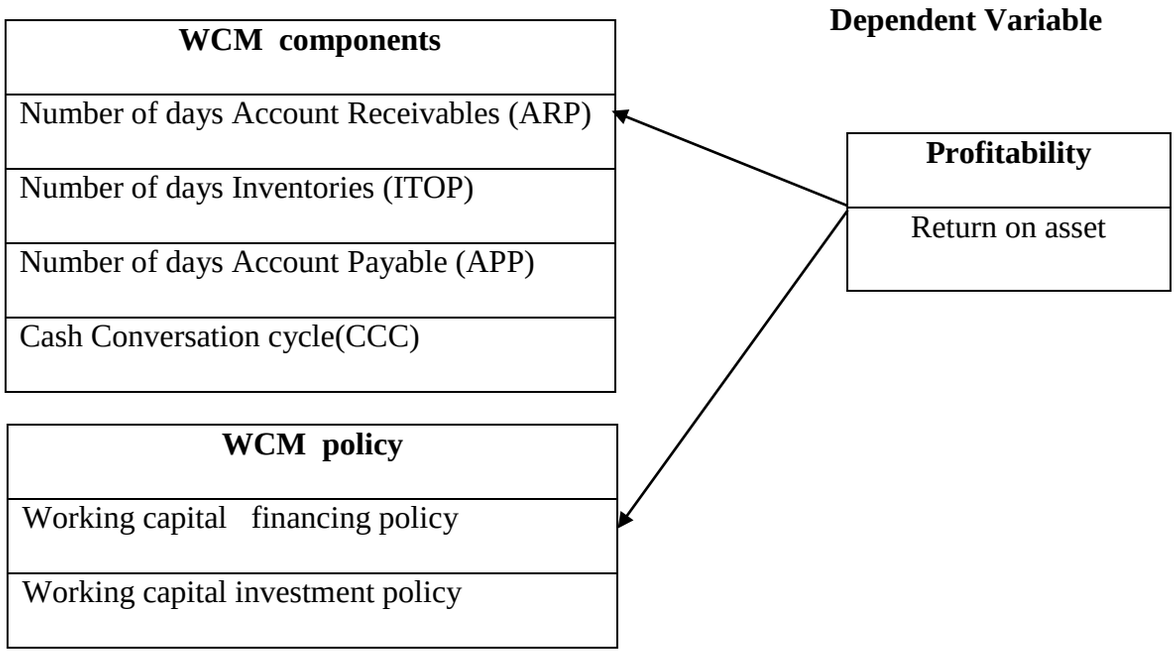

Figure2.1 Research frame work

The independent variables of this study indicate statistics that were used to measure impact of working capital management on profitability and return on asset. Credit policy which was measured by credit standard, credit terms, collection efforts and creditworthiness of customers. A/P practices were measured by relationship with suppliers. Delays in payment and payment period allowed by suppliers. Inventory control practices were measured by inventory control system and inventory levels. Liquidity

management practices were measured using current ratio, quick ratio, and cash management. Working capital management policy were measured using aggressive investment policy, conservative policy, aggregate financing policy and conservative financing policy. The dependent variable was the profitability which was measured by return on assets (ROA).

2.8. Conclusions

WCM impacts a business performance on its profitability. Working capital management requires the management of the most liquid resources of a firm with a view to maintain the firm's liquidity, enhance profitability and promote business growth. Working capital management concentrates on the management of inventories, cash and cash equivalents and accounts receivable. The proper management of these items is critical to the success of an organization. The use of either long or short term financing to fund working capital requirement has a different impact on profitability of firms.

The management of inventories is aimed at determining the optimal level of stocks an organization should hold. It ensures that the organization is holding the right quantity of inventories at the right time and in the right location. Proper management of inventories is meant to check on costs associated with holding incorrect quantity of stocks which includes damages to stocks, high capital tied up in stocks, stock holding costs and lost goodwill and profitability associated with being out of stocks.

The management of cash on the other hand is aimed at determining the optimal level of cash an organization should hold so that it can be able to meet its day to day operating expenses, meet its short term financial obligations, ensure that funds are available to ensure investments in expansion projects and that excess cash balances not immediately required for use are invested in income generating activities i.e. money market instruments. Cash should not be left idle in the bank accounts. This is because cash balance in the bank is a non earning asset.

This cash should be converted into an earning asset by either investing in short term marketable securities or investing for business growth. Inadequate or excessive cash balance has negative impact on the operations of the firm. Inadequate balances causes financial distress to a firm leading high cost of finance, inability to meet profit targets and inability to undertake expansion projects which limits the overall performance. Excessive cash balances on the other hand leads to lost profitability due to forgone investment income that would have been earned if the idle cash were invested.

Accounts receivable management refers to the determination of the optimal level of debtors an organization should hold. It involves a cost benefit analysis of selling on credit. It involves evaluating the credit policies of an organization with a view of selecting and implementing a policy that yields the maximum benefits to a firm. A firm selling on credit terms increases it turnover therefore increases it profits, however there are costs associated with the credit sales. A trade off should therefore be made between the benefits of credit sales and the cost associates with such credit sales. An organization should carry out a cost benefit analysis of either selling in cash or on credit. Such a decision can only be done after evaluating the credit policy of the firm. Any policy adopted should be the one which leads to a lower cost associated with credit sales.

High level of debtors has high incidence of bad debts and debt administration costs. Low level of debtors on the other hand implies low level of sales therefore low profitability. Debtor's management policy impacts on the firm's profitability, liquidity, growth and the level of operating and financial risk of an organization. A problem therefore arises as to what should be the optimal level of debtors and the credit policy that an organization should adopt in order to reap maximum benefits.

In general, the literature review indicates that working capital management has impacts on profitability of a firm. Having optimum level of working capital components will help firms to meet its day to day operations and vital for maximizing value and profitability. Hence, almost all studies did in Ethiopia in the past focuses on the impacts on working capital on

profitability studies for small and medium business firms. While, this study focuses in Roha pack plc which is one of the pioneer in PET perform & Bottles manufacturing and try to find out the impact of working capital management on its profitability and performance.

The results of empirical studies also show that there is no working capital policy that is superior to others. There seems to be no conclusive agreements as to which WCM policy guarantees a higher profitability. The study is an attempt to close the knowledge gap by analyzing the impact of WCM on the profitability of PET Preform & Bottles producing company.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

3.1 Research Design

The research design enables the researcher to answer the basic research questions. According to Saunders (2009) the choice of research design depends on the objective of the study, the availability data source, the cost obtaining data and availability of time. This study is applied longitudinal research design with a mixed approach. The research design, use a pooled panel data analysis of cross-sectional and time series data. The data collection also involves gathering both numeric information from financial statement of the company as well as text information from officials of the company, so that the final database represents both quantitative and qualitative information. After the collection of data the required variable are extracted using different ratio for computation purpose to examine the impact and relationship between the dependent variable (ROA) and the independent variable (WC components & WCMP) using descriptive and inferential analysis technique.

3.2 Research approach

Triangulation is about exposing potentially conflicting perspectives to analysis and showing that data can be integrated and cross-referenced to highlight consistency. There is a need to collect or analyze data through triangulation and where correctness or precision is important. Hence, it is quite logical to collect information through different methods and angles. Babbie (1995) mentioned that a combination of qualitative and quantitative approaches should be viewed as an acceptable methodological approach for research occupying a variety of epistemological positions. As a result, when methods are combined, the advantages of each methodology complement those of the other, making a

stronger research design that will yield more valid and reliable findings. Hence, the inadequacies of individual methods are reduced.

A quantitative approach involves collecting and analyzing numerical data. It is a highly detailed and structured approach which allows results to be examine the impacts of WCM polices and WC components on profitability .In addition to this the approach also helps me to examine association that exist between/among WC components and WCMP with ROA. In similar way the qualitative approaches also helps to know &determine the practices and techniques of WCM currently employed by Roha Pack plc. This result allows being aggregating and generalized back to the larger population.

3.3 Population and Sampling

3.3.1 Target Population

A population is defined as total collection of elements about which we wish to make some inferences (Cooper & Schindler, 2011). Other scholars (mcmillian & Schumacher, 2010) define population as a large collection of subjects from where a sample can be drawn. Kothari (2004) refers population to all items in any field of inquiry which is also known as the universe to represent it. Since this study is a case study RP Plc is the target population.

3.3.2 Sampling Technique

To select sample, the researcher plans to employ convenience and purposive sampling techniques. Homogeneous sampling is a type of purposive sampling technique that aims to achieve a homogeneous sample; that is, a sample whose units (i.e., people, cases/organizations, events, pieces of data) share the same (or very similar) characteristics or traits (e.g., a group of people that are similar in terms of age, gender, background, occupation, etc.). A homogeneous sample is often chosen when the research question that

is being address is specific to the characteristics of the particular group of interest, which is subsequently examined in detail Patton (2002).

3.3.3 Sample size determination

The term sample is defined in various ways by different scholars. Bryman (2008) define a sample as a part of the total population. However, Kothari (2004) defines a sample as a collection of units chosen from the universe to represent it. This study investigates the five years financial annual report of the company starting from 2011/12-2015/16 because of the following reason.

i. The study should base the latest data for investigation and the continuity and homogeneity in the available data is a prerequisite for studying the trend of working capital formation and this period is enough to create relationship.
ii. In the study the researcher conducted restriction criterion to arrive at defining the study population. The reason for restricting to this period is dramatically changes seen in the company in this period & the latest data for investigation relatively.

3.4 Data collection tools and procedures

3.4.1 Data collection procedures

After the approval of the research proposal, a support letter is getting from dean office to collect relevant data from Roha Pack plc through the general manager to finance manager of Roha pack plc. After the permission get the researcher then secured an appointments with the finance managers, to collect data from the financial records of the companies for the stated financial periods.

Data on WC policy and profitability is extracted from the audited financial statements of RP plc and the audited balance sheets and profit and loss accounts is used from 2011/12 - 2015/16. The data to be collected is sales turnover, profit after tax, current assets, current

liabilities, fixed assets, accounts receivable, inventory, accounts payable as well debt and equity for each year and to know the practice of WCM; and also interviewee with general manager & finance manager of RP plc is used to complete this study.

3.4.2Data collection tools

The study is based on both primary and secondary sources. The literature review is totally depends on secondary sources while the data analysis's and interpretation depends on both primary and secondary sources.

Primary data sources

The primary data is collected through an interview to general manager & finance manager of Roha Pack Plc. Interview questionnaire were used to collect primary data to answer the WCM practices carried out by RP.

Secondary sources

This study heavily relied on secondary data. Secondary data included; the amount of debtors, amount of creditors, amount of inventory , amount of cash and sales which will be useful in calculating the ARP, APP,CCC ,ITOP,WCFP and WCIP respectively. Further, the amount of total assets was collected to calculate the ROA. The study employed the five years quantitative secondary data from the company audited financial statement, yearly reports, and company manuals document. This data was believed to be authentic given annual reports are audited giving the financial information presented in them credible. .Besides books, journals, published and/or unpublished research papers, were review to make the research reliable and dependable.

3.5 Data analysis and presentation

The study employed manual and computerized data processing techniques. The data processing activities such as editing, coding, classification and tabulation of the collected

data were used. Since this help me to clean up and detecting errors. Then after transformation of the processed data to look for patterns and relationship between and /or among data groups by using descriptive and inferential analysis technique was done. The Statistical Package for Social Science (SPSS) version 20 is used to analyze the data.

3.5.1 Descriptive and inferential analysis

Descriptive analysis is used to reduce the data in to summary format tabulation and measure of minimum, maximum, mean standard deviation and the like. Table was used to describe the general characteristics of the variables. The reason for using descriptive statistical is to compare the different variables. Besides, the interview questions were also analyzed using descriptive narrations through concurrent triangulation strategy. The relationship between two or more variables and how several independent variables might explain the variance in dependent variable. The person product moment correlation coefficient and linear regression analysis are applied for the study.

3.5.2 Linear multiple regression analysis

Linear regression is method of estimating or predicting a value on some dependent variable given the values of one or more independent variables. Like correlations, statistical regression examines the association or relationship between variables. Unlike correlation, however, the primary purpose of regression is prediction .In this study multiple regression is applied.

Multiple regression analysis takes in to an account the inter correlation among all variables involved. Multiple regression analysis, is help to see more than one predictor are jointly regressed against the criterion variables. This method is used to determine if the independent variables explain in the dependent variable.

3.6. Research model

It is important to note that the ROA depends on ITOP, ARP, APP and CCC, WCFP, WCIP; and the following model is formulated to measure the impact of working capital management components on profitability. The equation of regressions on this study is generally built around two sets of variables namely dependent variable (ROA) and independent variable (ITOP, ARP, APP and CCC).The basic objective of using regression equation on this study is to make more effective at describing, understanding and predicting the stated variables. The reason I chose this model are:

1. Return on assets avoids the potential distortions created by financial strategies.
2. Different metrics are appropriate depending upon the circumstances. But my over-reliance on ROE is problematic on many levels. ROA may foster a better view of fundamentals of the business, including asset utilization.
3. ROA explicitly takes into account the assets used to support business activities. It determines whether the company is able to generate an adequate return on these assets rather than simply showing robust return on sales. Asset-heavy companies need a higher level of net income to support the business relative to asset light companies where even thin margins can generate a very healthy return on assets ;similarly Roha Pack plc own asset heavy company. Due to the above reason it is appropriate to use this model for my research.

Model 1

$ROAit = \beta o + \beta_1 ITP + \beta_2 APP + \beta_3 ARP + \beta_4 CCC + e_1$

Model 2

$ROAit = \beta o + \beta_1 WCFP + \beta_2 WCIP + e_2$

ROA: Return on Asset } dependent variable

β_O: Constant representing the extent each variable influences profitability

ITP: Inventory turnover period

ARP: Account receivable period

APP: Account payable period

CCC: Cash collection cycle

} explanatory variables

WCFP: Working capital financing policy

WCIP: Working capital investment policy

e: Error term

B_0 is the intercept term- constant which would be equal to the mean if all slope coefficients are βo,β1, β2, β3, and β4 are the coefficient associated with each independent variable which measure the change in the mean value of ROA, per unit change in their respective independent variables. Accordingly, this statistical technique is applied to explain the following relationships. Regress profitability (as dependent variable) on the selected linear combination of the independent variables using multiple regressions.

3.7 Measurement of Variables

The choice of the variables in this study is influenced by the previous studies on WCM. The independent variable in this study is WCM which will be measured using the WCM components including, receivables management, inventory management, payables management and cash management and WCFP & WCIP. Profitability of firm being the dependent variable will be measured using variables such as profitability ratios and liquidity ratios. The profitability ratio to be applied in this study is the Return on Assets (ROA). The liquidity ratio to be applied in this study, as a control variable is the current ratio and debt ratio.

3.8 Validity and Reliability

Reliability is the degree to which results obtained from the analysis of the data actually represents the situation in the study. The Reliability of the secondary data depends on the financial statements used for the study is compliance with, IAS & GAAP, then the issue of "accounting data reliability" is 100% reliable and the data what I use is taken from Audited financial statement and prepared by company accountant and approved by certified accountant as per IAS & GAAP.

To increase the validity, the researchers prepare the interview questions based on the objectives of the research. In addition, the researcher ensured that the questions were not leading and further more the interview question is viewed by peers and supervisors who offered objective suggestions on areas to improve on. The interview can also validate the measurement. In addition, to have valid conclusion and recommendation inferential statistical model is used to test the relationship between variables.

3.9 Ethical consideration

As Snowden (2014) stated that ethical research is free from unfair discrimination, harming individuals, violating individual's privacy and confidentiality; even if this study involves direct contact with human subjects partially, the potential for ethical threats was minimal. The informed consent of participants & willingness of the company was obtained before starting the study. Interviewee respondents were given a clear explanation about the nature of the study .In addition participants were informed about data collecting procedure. The secrecy of the subjects was protected and guaranteed by preventing to write their names and providing clear instruction. Furthermore, the information obtained thorough the aforementioned procedure was only used for the research purpose and the confidentiality were maintained.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRITATION

4.1. Introduction

This chapter presents the results of the various indicators of profitability of RP and their respective working capital variables. The study selected Return on assets (ROA) as the measure of the firm's financial profitability. On the other hand cash conversion cycle (CCC), inventory conversion period (ITOP), account receivable period (ARP) and account payable period (APP) were used as the measure of working capital (or working capital variables) and WCIP and WCFP as working capital management policies for the study.

Empirical results from quantitative data analysis using Statistical Package for Social Science (SPSS) as well as presenting results from descriptive statistics, correlation matrix and regression results was used as the study main statistical tool.

4.2. Descriptive analysis

Descriptive statistics allow researchers to present important statistics such as measures of central tendency and spread to serve as a foundation for further analysis and it is used as stand to give recommendations after identifying the association between the variables from correlation and regression analyses. It also presents the minimum and maximum values of the variables which help in getting a picture about the maximum and minimum values a variable can achieve.

Table: 4.1.presents descriptive statistics of RP for a period of five years from 2011/12 to 2015/16. The research has employed seven variables for the analysis purpose. Further, these seven variables are broadly classified in to six independent variables and one dependent variables. The average profit of the factory as indicated by ROA is 8%. The minimum value for ROA is reported as negative 4% with highest profitability reported as

15%, whereby the standard deviation of ROA is indicated as 7%, which means that ROA value can deviate from the mean both sides by 7% (Table 4.1).

For WCM components, noted that ARP has the mean value of 149 days, followed by ITOP with average of 180 days, while APP reported average of 35 days, which resulted the highest in CCC of 293 days that is near to 10 months period. This reflect that the factory receive payment from sales proceeds on average of 148 days with standard deviation of 135 days, which the minimum collection period from receivables proceeds is 66 days with maximum period of 386 days (Table 4.1).

Furthermore, RP take an average of 180 days to sell inventory with standard deviation of 135 days, which the minimum for inventory conversion to sales is 24 days. Whereas, RP pay its purchases an average of 35 days with standard deviation of 22 days, which the minimum period reported as 8 days and maximum period is 67days (Table 4.1).

CCC as a measure of efficiency in working capital management has an average of 293 days with standard deviation of 149 days. In terms of WCM policy, the average value of WCIP is reported as .54 of total assets, while WCFP recorded an average of .02 of total assets (Table 4.1).

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITOP	5	24.00	396.00	179.80	135.11
APP	5	8.00	67.00	35.00	21.75
ARP	5	66.00	386.00	148.60	135.62
CCC	5	94.00	456.00	293.40	149.09
WCFP	5	.02	.04	.02	.01
WCIP	5	.16	.85	.54	.30
ROA	5	-.04	.15	.08	.07
Valid N(list wise)	5				

Source**:** SPSS Output from Secondary Data (2011/12 – 2015/16)

4.3. Correlation coefficient matrix

Prior to regression result, it is important to check the correlation between different variables on which the analysis is built. Pearson's Correlation analysis is also being conducted in order to determine on the relationship between the independent and dependent variables such as the WCM components and WCM policy towards the profitability of the firms that is measured by ROA.

The Pearson's Correlation Coefficient Matrix indicates that ROA has strong negative significant relationship with ARP, CCC and APP at 5% and 1% significance level respectively (Table 4.2).

In contrary WCFP have moderate significant positive relationship with Return on asset at 5% significance level (Table 4.2).

ITOP and WCIP have insignificant negative relationship with Return on asset.

As we seen the correlation coefficient matrix (Table 4.2); there are high correlation values between WCIP & ITOP (-.848) & WCFP & ITOP (-.747). Thus, there is a multi-co linearity problem in developing regression that includes all the independent and control variables into one liner regression as the correlation is higher than 0.7 (Pallant, 2009). The problem of multi-co linearity is being mitigated by not including the variables of WCIP, WCFP and ITOP together in a similar regression, since there are highly correlated.

Thus, two panel data regression models have been developed to investigate on the individual impact of WCM components (ARP, ITOP, APP, CCC) and WCM policy (WCIP and WCFP) in the firm, which analysis have been conducted separately towards the ROA of the firms as dependent variable.

Table 4.2 Pearson's Correlation Coefficient Matrix

		APP	ITOP	ARP	CCC	WCFP	WCIP	ROA
APP	Pearson Correlation	1						
	Sig. (2-tailed)							
ITOP	Pearson Correlation	.386	1					
	Sig. (2-tailed)	.521						
ARP	Pearson Correlation	.815	-.213	1				
	Sig. (2-tailed)	.093	.731					
CCC	Pearson Correlation	.943*	.660	.594	1			
	Sig. (2-tailed)	.016	.226	.291				
WCFP	Pearson Correlation	-.546	-.747*	-.061	-.654	1		
	Sig. (2-tailed)	.341	.014	.923	.231			
WCIP	Pearson Correlation	.042	-.848*	.600	-.232	.732	1	
	Sig. (2-tailed)	.946	.007	.284	.707	.160		
ROA	Pearson Correlation	-.979**	-.191	-.908*	-.854*	.439*	-.217	1
	Sig. (2-tailed)	.004	.758	.033	.005	.046	.726	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.4. Regression results analysis

A major weakness of Pearson Correlations is that they do not allow identifying causes from consequences. To overcome this shortcoming, the researcher use regression analysis to investigate the impact of working capital components on dependent variables: Return on Asset (ROA). The results are as presented in table 4.3 and table 4.4.

To minimize the influence of potential violations, regression assumption are tested (normality, linearity, homoscedasticity and independence of residuals) by examining the normal probability plot (P-P) of the regression standardized residual and the scatter plot of the standardized residuals for all the six dependent variables and there was no serious violation of the normality assumption for both ROA models.

The value of F test explains the overall significance of a model. It explains the significance of the relationship between dependent variables and all the other independent variables. (Anderson et al. 2007). In the case of a small sample, the adjusted R^2 value should be considered as it provides more accurate estimation of the true population value (Pallant, 2007, p.158). There is a rule of thumb which can be used to determine the adjust R^2 value as follows: < 0.1: poor fit, 0.11 to 0.30: modest fit, 0.31 to 0.50: moderate fit, > 0.50: strong fit (Muijs, 2004, p. 166).

To evaluate the study models, the value of R^2 has been considered to determine the amount of variance in the dependent variables which is explained by all variables in the formula (Pallant, 2007, p.158). As the B coefficients have different scales, the absolute value of Beta parameter under Standardized Coefficients is used in order to compare and determine the influence of independent variables on the dependent variable (Muijs, 2004, p. 167). The Significant value is used to measure the statistic significant unique contribution of each independent variable to the formula (Pallant, 2007, p.159).

According to (Kohler, 1994), the values of Durbin Watson have upper limit of four and lower limit of zero. If the value of Durbin-Watson is equal to two then there exists no autocorrelation but if the value is less than two then there exists positive correlation and if the value is higher than 2, then there exists negative correlation.

4.4.1 The impact of Working Capital components' on Profitability

The impact of working capital components on profitability is analyzed using linear regression method with a two-tailed significance level of 5% (α= .05)and the result is analyze and interpreted based on (table 4.3) for model one.

Linear regression was calculated to predict ROA for Model 1; it had the ability to predict business profitability significantly, F (3, 1) = 771479.16, p < .001, with an R^2 of 1. This indicate that the model is perfect fit with the predictor variables (ARP, APP, CCC) accounted for 100% of the variance in business profitability as measured by ROA. In the ROA model, ARP, APP and CCC were statistically significant with ARP (ß= -.054, p = .031), and the APP (ß= -1.437, p = 0.003) and CCC (ß= .533, p = 0.005) (Table 4.3).

The predictive model is ROA = .162 -1.437 (APP) - .054(ARP) + 0.533CCC

Table 4.3 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics		Durbin-Watson
						F Change	Sig. F Change	
1	1.000[a]	1.000	1.000	.00009	1.000	771479.16	.001	1.854

a. Predictors: (Constant), CCC, ARP, APP

b. Dependent Variable: ROA

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

Table 4.4 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.018	3	.006	771479.16	.01[b]
	Residual	.000	1	.000		
	Total	.018	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCC, ARP, APP

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

Table 4.5 Coefficients[a]

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.162	.000		1218.08	.001
	APP	-.004	.000	-1.437	-226.31	.003
	ARP	-2.673	.000	-.054	-20.54	.031
	CCC	.001	.000	-.533	116.45	.005

a. Dependent Variable: ROA

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

4.4.2The impact of Working Capital Management policies on Profitability

For Model 2 Linear regression was calculated to predict ROA; it had ability to predict business profitability significantly, F (2, 2) = 4.434, $p < .0184$, with an R^2 of .816. This indicates that the model is strong fit with the predictor variables (WCFP & WCIP) accounted for 81.6% of the variance in business profitability as measured by ROA. In the ROA model, WCFP were statistically insignificant with (ß= 1.286, $p = .102$) and similarly WCIP also statistically insignificant with (ß= -1.158, $p = .121$) (Table 4.8).

The predictive model is ROA = -.1-1.158(WCIP) +1.286(WCFP)

Table 4.6Model Summary[b]

Model	R	R Square	Adjust R Square	Std. Error of the Estimate	R square Change	Change Statistics F Change	Sig. F Change	Durbin-Watson
1	٩03[a]	.816	.632	.04071	.816	4.434	.0184	1.021

a. Predictors: (Constant), WCFP, WCIP

b. Dependent Variable: ROA

Table 4.7ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.015	2	.007	4.434	.0184[b]
	Residual	.003	2	.002		
	Total	.018	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), WCFP, WCIP

Table 4.8 Coefficients[a]

Model	Un standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.100	.080		1.247	.339
WCFP	10.41	3.615	1.286	2.891	.102
WCIP	-.259	.100	-1.158	2.602	.121

a. Dependent Variable: ROA

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

4.5 Result Interpretation

- There is a significant negative relationship between CCC and ROA at significance level of 0.5. This result revealed that an increase in the number of days of CCC by a day has reduced the ROA of the firms by 53.3% holding other factors constant. Profitability decreases as a result of an increase in the number of days accounts receivable and inventory but decreasing a number of days accounts payable (APP) that have negative relationship with profitability; and APP had been deducted in computation of CCC (Table 4.5).

  Based on the alternative hypotheses developed to examine on the impact of CCC on ROA:-

  $H1_1$: There is significant relationship between Cash Conversion Cycle (CCC) and profitability (ROA) of the firms.

  $H1_0$: There is no significant relationship between Cash Conversion Cycle (CCC) and profitability (ROA) of the firms.

  Thus, based on the result obtained in Model 1, the alternative hypothesis of $H1_1$ is accepted as there is negative significant relationship observed between CCC and ROA of the firms during the period of 2011/12 to 2015/16.

- Concerning the impact of ITOP towards the firms' ROA, it is revealed that ITOP has a negative relationship with ROA, but the relationship is not significant. Generally speaking; when the number of inventory period increase ROA will decrease even if it is not significant. As the result based on the hypotheses developed to examine on the impact of ITOP on ROA:-

H2 $_1$: There is a significant relationship between Number of days Inventories (ITOP) and ROA of the firms.

H2 $_0$: There is no significant relationship between Number of days Inventories (ITOP) and Profitability of ROA the firms.

Therefore, based on the result obtained in Model 1, the null hypothesis of H2o is accepted in view that the negative relation between ITOP and profitability (ROA) of the firms is not significant during the period of 2011/12 to 2015/16.

- Concerning the impact of ARP towards the firms' ROA, it is revealed that ARP has a significant negative relationship with ROA at significance level of 0.05. This result revealed that an increase in the number of days accounts receivable (ARP) by a day has reduced the ROA of the firms by 5.4 % other factors hold constant (Table 4.5).

Based on the hypotheses developed to examine on the impact of ARP on ROA:-

$H3_1$: There is significant relationship between Number of days Accounts Receivable (ARP) and profitability (ROA) of the firms.

$H3_0$: There is no significant relationship between Number of days Accounts Receivable (ARP) and profitability (ROA) of the firms.

Thus, in agreement with the formulated hypotheses the results support the alternative hypotheses. Hence we accept $H3_1$. Therefore, there is a significant negative relationship between ARP and profitability (ROA) of firms.

- Concerning APP has a negative significant relationship with profitability (ROA), which implies that ROA has decreased by 143.7% other factors hold constant by lengthening a day of the accounts payable (APP). Which means if firms delay their payments they will

earn less profits; the reason behind this is that firms can take the advantage of discounts by paying soon. This finding is in contrary with the rules of WCM that firms should strive to lag their payments to creditors as much as possible, taking care to maintain their business relationships with them (Mathuva, 2010). But in the case of RP, implies that withhold of payment to suppliers so as to take advantage of cash available for their working capital results decreasing of the company profitability (ROA) (Table 4.5).

Based on the hypotheses developed to examine on the impact of APP on ROA:-

$H4_1$: There is a significant relationship between Number of days Accounts Payable (APD) and profitability (ROA) of the firms.

$H4_0$: There is no significant relationship between Number of days Accounts Payable (APP) and profitability (ROA) of the firms.

Thus, based on the result, the alternative hypothesis of $H4_1$ is accepted because the relationship is significant between APP and ROA of the firms (Table 4.5).

Concerning the model; The regression analysis model summery tell us the coefficient of multiple determinations (R) and given the adjusted R^2 it may realized that 100% of the variance in the dependent (ROA) explained uniquely or jointly by the independent variables and also the F-statistics is used to test significant of R, from the results, one can see that the model is fit with F statistics 771479.160 at p-value of .001. Hence the model is perfect.

In order to find out the autocorrelation in the residuals and in the regression, Durbin-Watson (DW) value of model 1 is computed. The result shows the value of 1.854 for ROA. Hence we can conclude that there exist no autocorrelation problems in the

regression. Therefore, the independence of residuals assumption is not violated and also the model confirms working capital components have positive correlation with ROA.

- Based on Model 2 the working capital investment policy (WCIP) of the firms reveals a statistically negative insignificant relationship with ROA. The negative coefficient of WCIP ratio also denotes a positive association between the degree of aggressive investment policy and profitability. This means that when WCIP as reflected by total current assets to total assets ratio decreases, there is an increase in the degree of aggressiveness, which result in an increase of ROA of the firms.

Based on the hypotheses developed to examine on the impact of WCIP on profitability (ROA) of firms:-

$H5_1$: There is a significant relationship between working capital investment policy (WCIP) and profitability (ROA) of the firms.

$H5_0$: There is no significant relationship between working capital investment policy (WCIP) and profitability (ROA) of the firms.

Thus, based on the results reflected in Model 2, the null hypothesis of H5o is accepted, in view that there is insignificant negative relationship found between WCIP and profitability(ROA) of firms during period of 2011/12 to 2015/16, which also reflects that profitability can be increased by adopting aggressive WCIP policy(Table 4.8).

- Similarly the firms' working capital financing policy as represented by WCFP statistically insignificant positive relationship with ROA at significance level of 0.05, ß= 1.286, p=.102 .

This indicates that there is an increase in ROA by 1.286 standard deviation for every increasing of 1 unit of WCFP ratio by adopting defensive WCFP even if it not significant at 0.05 significance level. The positive coefficient of WCFP also indicates the positive relation between working capital financing policy (WCFP) and profitability of firms that is measured by ROA. This means that the higher the WCFP ratio as reflected by total current liabilities to total assets ratio, the more conservative the WCFP that resulted in higher ROA for the firms.

Based on the hypotheses developed to examine on the impact of WCFP on ROA of firms:-

$H6_1$: There is a significant relationship between the working capital financing policy (WCFP) and profitability (ROA) of the firms.

$H6_0$: There is no significant relationship between the working capital financing policy (WCFP) and profitability (ROA) of the firms.

Thus, based on the result obtained in Model 2, the null hypothesis of $H6_0$ is accepted and reject $H6_1$.

4.6 Analysis of interviewee on WCM practices by RP

Even if the prime objective of WCM in RP is to furnish the required amount of finance to the business activity without disruption & diligence and to dispose the company obligation. Until in the near time they don't have a written policy statement regarding WCM strategy but at this time; this issue was raised by the management due unstoppable question are coming from internal and external stack holders and with that of credit policy since the credit policy of the company is not clear and subjective to general manager finance manager, and the marketing manager & the managing director (owner). They give

the assignment to consultant to prepare functional WCM policy and Marketing and sales procedure. Since it is not able to apply consistently and difficult to say there is credit policy even if there is too much credit sale in the company this problem is one of the main reasons to increase the average ARP of the company i.e. 148 days.

Concerning WC policy even if it is not written RP use a mixed approach of defensive and aggressive WCIP; similarly RP use both aggressive and conservative WCFP by default in the study period based on the fund availability (Short and long term loan) in the budget year.

Regarding cash management model the company do not use any cash model specifically, just manage the cash based on priorities of company interest (general manager and Managing director) and unforeseen event. Regarding to planning for cash inflows and outflows, most of the time RP planned on a weekly basis. Even if RP planned ahead the budget year for their cash control, disbursements, receipts and invest in any excess cash; execution is quietly differently. Now a day RP banked their cash twice a day. From these we can understand that RP do not use the formal cash management practices, but are keen in managing their cash in informal practices.

Regarding challenges of WC; due to absence of clear WCM policy written as well as unwritten policy the company face: an interest conflict especially internally at operational level. And also unable to fill filling of the obligation of the company ; specially for opening of LC, loan principle and interest payment, salary expense, utility expense at due date. Because customers are not able to pay their obligation at due date; due to absence of clear credit policy. Hence RP face shortage of cash at the time of need.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Introduction

In this section findings of the research were listed and conclusions were also made based on the findings and relevant recommendations have been given.

5.2. Summary of the findings

The mean value of RP return on asset is 7.3 % of total assets, and it deviates 6.71 %. It means that value of profitability can deviate from mean to both sides by 6.71%.

The average cash collection cycle of RP is 293. The average inventory period, from inventory purchased to inventory sold, is 180 days. The average ARP is 149days but the companies have relatively short accounts payable period on average at 35days.

Results from regression analysis reports cash conversion cycle, inventory conversion period, account receivable period & account payable period have significant impact on ROA in the case of RP.

Results from regression analysis reports ITOP, WCIP and WCFP have no significant impact on ROA in the case of RP.

RP use a mixture of WC policy during the study period base on the availability of funds in order to balance the risk and return.

5.3. Conclusions'

The study has investigated the impact of working capital management on the profitability of the manufacturing firm in the case of Roha Pack plc. Based on the finding of the study, the following conclusions are drawn.

- ✓ The multiple regression analysis result showed that the beta weight largest influence on ROA of RP by APP (-1.437),CCC (-.533) and ARP (-0.054) respectively, the beta weight is the average amount that the dependent variable increases when the independent variable decreases by one standard deviation (all other independent variable are held constant).

- ✓ ITOP, WCFP and WCIP do not have significant impact on the profitability of the company; even if it has negative relationship with profitability.

- ✓ The finding reveled that CCC, ARP and APP are significant predictors of profitability this shows that Roha Pack plc management must consider CCC,ARP and APP as strategic tools to maximize profitability

- ✓ Even though RP do not have written statement concerning working capital policy, financial data reveal that RP use mixed approach working capital policy.

- ✓ Generally, this empirical study concluded that there is significant relationship between working capital management components & ROA.

5.4. Recommendations

Based on the findings and conclusions of the study, the following recommendations are forwarded to the company.

- ❖ From the finding CCC, ARP and APP are significant predictors of firm profitability. Effective management of CCC, ARP and APP requires companies to establish a smooth working relationship with both their suppliers and customers. A strong partnership with

customers will help the company to understand better its customers, tailor-made credit arrangement, and reduce the incident of bad debts. A smooth working relationship with suppliers will lead to trust building, which will allow the company to obtain better credit terms and facilities from suppliers. On the other hand RP plc must improve their trade credit management practices through review of the terms of trade and credit collection policies through developing an explicit procedure for collecting its receivables to reduce the number of day's accounts receivables. In following its collection procedures the circumstance of customer's should be kept in mind. Good customers in temporary difficulties should be treated differently from habitual defaulters. Otherwise RP lose its loyal customers.

- CCC has taken abnormally longer period relatively in RP; since it has a negative relationship with firms' profitability. The researcher recommended to lowering cash collection cycle at minimum level. This means that investment in working capital could be optimized and cash flows could be improved by reducing the time frame of the physical flow from receipt of raw material to shipment of finished goods, *i.e.* inventory management, and by improving the terms on which firm sells goods as well as receipt of cash. The management of a firm can create value for their shareholder& develop its capability of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the organization through by careful reduction of the cash conversion cycle to its minimum level. In doing so the profitability of the firms is expected to increase.

- RP Plc should conduct periodic review of trade credit terms and policies that affect CCC, ARP and APP in order to align them with the changing market and operational

requirements. Since flexible credit collection terms is the essence of effective WCM because it takes into account the impact of changes taking place in the market.

- Even if there is no ready made best WC policy for any company Roha pack should develop clear working capital policy in order to reap the intended profit from the business; that govern the business. Since there is no consistency in the use of WC policy it is difficult to say which one is appropriate for the RP. But the unclear mixed approach it is not as such attractive as we have seen from the ROA.

- RP can use model 1 to predict the ROA of the year which involves the working capital components.

$ROA_{it} = .162 - 1.437 (APP) - .054(ARP) + 0.533CCC)$

References

Afza T., & Nazir,M.S.(2007). *It is better to be aggressive or conservative in managing Working capital?* Proper presented Singapore economic review. Conference (SERC) on august 02-04, Singapore.

Afza, T., & Nazir, M.,(2009).*Impact of aggressive working capital management policy on firms' profitability"*, The IUP Journal of Applied Finance, 15(8), 20-30.

Allwood, C. (2012). The distinction between qualitative and quantitative research methods is problematic. *Quality & Quantity, 46*, 1417-1429. Doi: 10.1007/s11135-011-9455-8

Amakom, U. (2012). "*Manufactured Exports in Sub-Saharan African Economies*: Econometric Tests for the Learning by Exporting Hypothesis". American International Journal of Contemporary Research, 2 (4), 195-206.

Amalendu, B. I. & Sri, B. B. (2011). *Importance of Liquidity Management and Profitability.* Asian Journal of Business Management, Vol. 3, No. 2, pp. 108-117

Arnold, G., (2008). *Corporate financial management. 4th edition*. Harlow: Financial Times Prentice Hall Brealey, R.A., Mayers, S.C., Allen, F., (2006). Corporate Finance. 8th edition. New

Akinlo, OlayinkaOlufisayo, "*Effect of Working Capital on Profitability of Selected Quoted Firms in Nigeria*",Global Business Review, Vol.13, No.3, pp. 367–381, 2012.

Besley, S. and Brigham, E. (2005), *Essentials of Managerial Finance*, 13th Edition, and Washington, D.C.: Thomson.

Brigham, E.F. and Ehrhardt, M.C. (2008), *Financial Management*: Theory and Practice, 11th Edition, New York: South-Western College Publishers.

Brigham, E. C., & Houston, M. (2003). *Foundations of Financial Management.* London: Dryden Press Publishers.

Bryman, A. (2008).*Social Research Methods*. Oxford: Oxford University Press.

Capkun, V., Hameri, A.P. and Weiss, L.A. (2009), "*On the relationship between inventory and financial performance in manufacturing companies*," International Journal of Operations & Production Management, Vol. 29, No. 8, pp. 789-806.

Chittenden, F., Poutziouris, P., Michaelas, N. (1998). *Financial Management and Working Capital Practices* in UK SMEs. Manchester Business School.

Cooper, R.D. & Schindler, P.S. (2011). *Business Research Methods*. New Delhi: Tata mcgraw-Hill.

Deloof, M. and Jeger, M. (1996), "*Trade Credit, Product Quality and Intergroup Trade:* Some European Evidence," Financial Management, Vol. 25, No. 3, pp. 945-968.

Deloof,M.(2003).*Does Working Capital Management Affect Profitability of Belgian Firms?* Journal of Business Finance & Accounting, 30(3) & (4), pp. 573 – 588.

Dong, H.P. and Su, J.T. (2010), "*The relationship between working capital management and profitability*: A Vietnam case," International Research Journal of Finance and Economics, Issue No. 49, pp. 59-67.

Egbide B. (2009): "*Working Capital Management and Profitability of Listed Companies in Nigeria*"; Nigeria Research Journal of Accountancy (NRJA) 1/1, 44-53.

Eljelly, A. (2004). *Liquidity-profitability tradeoff: An empirical investigation in an emerging market.* International Journal of Commerce and Management, 14(2), 48-61.

Fabozzi Frank, j. and Peterson Pamela P., 2003, „*Financial management and analysis*", 2nd ed, John Wiley and Sons, Inc., publisher, New Jersey Canada. Financial Management. Spring, pg. 32-41.

Falope O.I., Ajilore O.T., 2009, "*Working capital management and corporate profitability:* evidence from panel data analysis of selected quoted companies in Nigeria", Research Journal of Business Management, 3: 73-84.

Filbeck,G. & Krueger, T. M. (2005).*An Analysis of Working Capital Management.* Mid-American Journal of Business, 20 (2), 11-18.

Ganesan, 2007, "*An Analysis of Working Capital Management Efficiency in Telecommunication equipment industry*", River Academic journal 3(2).

Gentry, J.A., Vaidyanathan, R., Lee, H.W. (1990), "*A weighted cash conversion cycle," Financial Management*, Vol. 19, No. 1, pp. 90-99.

Gill, A., Biger, N., & Mathur, N.(2010). *The relationship between working capital management and profitability:* Evidence from the United States. *Business and Economics Journal, 2010*, 1-9.

Gill,A.(2010)."*Factors that Influence Working Capital Management Requirements in Canada*". *Economics and Finance Research Journal,* 1 (3), 30-40

Gitman, L. J. 1999, '*Principles of managerial finance'* 7th Edition, Addison Wesley, U.S.A.

Gitman, L. J. (2009). *Principles of Managerial finance (12th ed.).*Bostos, MA: Pearson Prentice Hall.

Horne, J. C. & Wachowicz, J. M. (2004). "*Fundamentals of Financial Management*". New York: Prentice Hall Inc

Islam, M. N. & Milli, S. A. (2012). "*Working Capital Investment and Financing Policies of selected Pharmaceutical companies in Bangladesh*". Research Journal of Finance and Accounting, 3 (4), 1-8.

Kaur, J. (2010). *Working Capital Management in Indian Tyre Industry*. International Journal of Finance and Economics, 46, 7-15.

Kothari, C. K. (2004).*Research Methodology, Methods and Technique*. New Delhi:New Age International Limited Publishers

Lamberson M. (1995).*changes in working capital of small firms in relation to changes in economic activity*. Mid American journal Business10 (2):45-50.

Lazaridis, I., & Tryfonidis, D. (2006). *Relationship between working capital management and profitability of listed companies in the Athens stock exchange*. *Journal of Financial Management and Analysis, 19*(1), 26-35

Long MS, Malitz IB Ravid SA (1993), 'Trade credit, quality guarantees, and product marketability' *Financial Management*, 22: 117- 124.

Mathuva,D.M.(2010). *The Influence of Working Capital Management Components on Corporate Profitability:* A Survey on Kenyan Listed Firms. Research Journal of Business Management, 4(1), pp.1 – 11.

Mcmillian, J.H. & Schumacher, S. (2010). *Research in Education*: Evidence-based Inquiry. Boston: Pearson.

Muijs, D. (2004). *Doing quantitative research in education with SPSS*. 1st edition.

Nobanee, H., Abdullatif, M., AlHajjar, M. (2011), "*Cash conversion cycle and firm's performance of Japanese firms,*" Asian Review of Accounting, Vol. 19, No. 2, pp. 147-156.

Padachi, K. (2006). "*Trends in Working Capital Management".* International Review of Business Research Papers, 2 (2), 45-58.

Pallant, J. (2007). *SPSS survival manual*: A step by step guide to data analysis using SPSS for Windows version 15. 3rd edition. Berkshire, England: Open University Press.

Pandey, I. M.(2008). "*Financial Management*", 10th Edition. New Delhi: Vikas Publishing House Pvt. Limited.

Paramasivan, C. and Subramanian, T.(2009), '*Financial management'*, Published by New Age International (P) Ltd., Publishers 4835/24, New Delhi

Raheman, A. & Nasr, M. (2007). *Working Capital Management and Profitability-Case in Pakistani firms.* ICFAI Journal of Applied Finance, 54(3), pp.279-300.

Raheman, A., Qayyum, A. and Afza, T. (2011), "*Sector-wise performance of working capital management measures and profitability using ratio analysis*," Interdisciplinary Journal of Contemporary Research in Business, Vol. 3, No. 8, pp. 285-310.

Richared,V.& Laughlin ,E.,(1980).*A cash collection cycle approach to liquidity analysis financial management*; pp. 32-38.

Saunders M. and Thormhill, A.(2009). Research methods for business students.5th ed. Engeland : Prentice Hall.

Sherman, D. J. (2010). *Cash Management Toolkit for SMEs*. Wellington, New Zealand: The New Zealand Institute of Chartered Accountants (NZICA).

Sharma, A., & Kumar, S., 2011, "*Effect of Working Capital Management on Firm Profitability*: Empirical Evidence from India",Global Business Review,12(1), pp159– 73.

Snowden, A. (2014).Ethics and originality in doctoral research in the UK. *Nurse Researcher*, *21*(6), 12-15. doi:10.7748/nr.21.6.12.e1244

Weinraub, H.J. and Visscher, S. (1998), "*Industry practice relating to aggressive conservative working capital policies,"* Journal of Financial and Strategic Decisions, Vol. 11, No. 2, pp. 11-18.

http://www.rohapack plc.org.et

<http://www. dissertation. laerd.com/purposive sampling.php.>


Appendix

Annex -A

Addis Ababa Science & Technology University

College of Natural and Social science Department of Management

Interview question for General Manager & Finance Manager

The purpose of this research is to assess the impact of working capital management on profitability in the case of Roha Pack Plc in Hana Mariam Industry Zone Addis Ababa Nefas silk Lafto sub city for the requirement of completion Masters of Business Administration (MBA) degree.

Statement of Confidentiality:

The responses you provide will be strictly confidential. No reference will be made to any individual(s) or organization in the report of the study. The interview question is entirely for academic purposes.

These questions are used to analysis the Practice of Working Capital Management and policy exercised by in Roha Pack Plc**.**

1. What is the Primary Objective of Working Capital Management in your organization? Explain

2. Does Roha Pack have any written policy statement regarding working capital management strategy? If yes, Explain, If No why?

3. Could you explain what kind of working capital management policy & Credit policy exercise in your organization? Why your company chose this technique?

4. Does your company use formal cash management models to manage the company WC? If your answer is yes why you chose this model?

5. What kind of challenges you face in managing of working capital? Explain

Annex – B

Dependent	Return on Asset (ROA)
Independent/Explanatory	Accounts Receivable Period (ARP)
	Inventory Conversion Period (ITOP),
	Accounts Payable Period (APP)
	Cash Conversion Cycle (CCC)
	Working capital investing policy
	Working capital financing policy

Dependent and independent Variables

Annex – C

period	Sales	CGS	GP	NP	A/R	Inv	Financial Asset	Current Asset	Total Asset	A/P	Current liability	Total debt
2011/12	22971733	144934397	8037336	3917971	4914529	9488910	1428780	15832219	26490115	3101570	4915514	6371483
2012/13	24013600	17551938	6471660	2920203	4366091	19064672	2125170	25555933	39143575	1998530	4450333	5799017
2013/14	30252992	26556825	3696167	-3019587	31965716	10032865	2451515	44450096	84379795	4891843	5255536	6411286
2014/15	81400485	61350861	20049624	9118109	30614641	29680020	70252396	70252396	108448182	5394048	13997270	14813336
2015/16	136858015	100603556	36254458	13106551	28475773	45179439	2791594	76446806	136089461	7238771	25859436	26675502

Company financial Data

Source: Company financial audit report for the period of 2011/12- 215/16

Annex – D

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITOP	5	24.00	396.00	179.80	135.11
APP	5	8.00	67.00	35.00	21.75
ARP	5	66.00	386.00	148.60	135.62
CCC	5	94.00	456.00	293.40	149.09
WCFP	5	.02	.04	.02	.01
WCIP	5	.16	.85	.54	.30
ROA	5	-.04	.15	.08	.07
Valid N(list wise)	5				

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

Annex - E

Table 4.2 Pearson's Correlation Coefficient Matrix

		APP	ITOP	ARP	CCC	WCFP	WCIP	ROA
APP	Pearson Correlation	1						
	Sig. (2-tailed)							
ITOP	Pearson Correlation	.386	1					
	Sig. (2-tailed)	.521						
ARP	Pearson Correlation	.815	-.213	1				
	Sig. (2-tailed)	.093	.731					
CCC	Pearson Correlation	.943*	.660	.594	1			
	Sig. (2-tailed)	.016	.226	.291				
WCFP	Pearson Correlation	-.546	-.747*	-.061	-.654	1		
	Sig. (2-tailed)	.341	.014	.923	.231			
WCIP	Pearson Correlation	.042	-.848*	.600	-.232	.732	1	
	Sig. (2-tailed)	.946	.007	.284	.707	.160		
ROA	Pearson Correlation	-.979**	-.191	-.908*	-.854*	.439*	-.217	1
	Sig. (2-tailed)	.004	.758	.033	.005	.046	.726	

Annex - F

Table 4.3 Model 1 Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000[a]	1.000	1.000	.00009	1.000	771479.160	3	1	.001	1.854

a. Predictors: (Constant), CCC, ARP, APP
b. Dependent Variable: ROA

Table 4.5 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.018	3	.006	771479.160	.001[b]
	Residual	.000	1	.000		
	Total	.018	4			

a. Dependent Variable: ROA
c. Predictors: (Constant), CCC, ARD, APD

Table 4.6 Coefficients [a]

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.162	.000		1218.07	.001
	APP	-.004	.000	-1.437	-226.30	.003
	ARP	-2.673	.000	-.054	-20.54	.031
	CCC	-.001	.000	-.533	116.45	.005

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)

Annex - G

Table 4.6 Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.903[a]	.816	.632	.04071	.816	4.434	2	2	.0184	1.021

a. Predictors: (Constant), WCFP, WCIP

b. Dependent Variable: ROA

Table 4.7 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.015	2	.007	4.434	.0184[b]
	Residual	.003	2	.002		
	Total	.018	4			

Dependent Variable: ROA

d. Predictors: (Constant), WCFP, WCIP

Table 4.8 Coefficients [a]

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.100	.080		1.247	.339
	WCFP	10.451	3.615	1.286	2.891	.102
	WCIP	-.259	.100	-1.158	2.602	.121

Source: SPSS Output from Secondary Data (2011/12 – 2015/16)